ABSTRACT

An apparatus, system, and method for detecting high impedance faults in electrical power lines using a composite high impedance fault detection system having a voter logic that samples the logical outputs from a plurality of independent high impedance detection systems and determines a high impedance fault if any two of the plurality of independent high impedance detection systems indicates a high impedance fault. Preferably, the plurality of high impedance detection systems include a wavelet based high impedance fault detection system having a first logical output, a higher order statistics based high impedance fault detection system having a second logical output, and a neural net based high impedance fault detection system having a third logical output. Preferably, each of the plurality of high impedance fault detection systems includes an independent high impedance fault detection application that independently detects a high impedance fault on the electrical power line.